



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,213	07/31/2003	Jay Reimers	API-1047 (COS-954)	1114
25264 7590 02/23/2007 FINA TECHNOLOGY INC PO BOX 674412 HOUSTON, TX 77267-4412			EXAMINER MANOHARAN, VIRGINIA	
			ART UNIT	PAPER NUMBER
			1764	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/23/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/632,213

Applicant(s)

REIMERS, JAY

Examiner

Virginia Manoharan

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-10 and 12- 21 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,12-16 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Claims 2, 7- 8 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a). The claimed " impact-resistance polystyrene" in claim 8 lacks antecedent support as it is not in the Markush grouping of claim 7, the claims from which it depends.
- b). Claims 2 and 11 provide for ambiguity. They are cancelled claims, but are still presented as being dependent on claim 1.

Claim 10 is objected to because "the" in the second line is redundant.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 -10, 12-16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujitaka et al (6,353,088) or Aneja et al (4,808,262) in view of Duran (4,834,172) and with or without Williams (5,632,797).

The above references to Fujitaka, Aneja and Duran are applied for the same combined reasons as set forth at page 5 of the previous Office Action. Williams teaches or suggests the process of "introducing a heat transfer fluid into the supply tube; passing the heat transfer fluid from the supply tube to the return tube; and

withdrawing the heat transfer fluid from the return tube"as now claimed in claim 1. See col. 5 lines 27-56. One would have been led to modify Fujitaka or Aneja process by incorporating the heat transfer system taught by Williams, motivated by the reasonable expectation of providing uniform heating and ensuring the absence of hot spots which can lead to polymerization. Note e.g., col. 5 lines 54-57 of Williams.

Applicant's arguments filed November 22, 2006 have been fully considered but they are not persuasive.

Applicant's argument that "there is no motivation to use the heating apparatus of Duran into the heating apparatus for the devolatilization of polymers , nor a teaching as to how to incorporate the heating apparatus of Duran into the heating mechanisms of Fujitaka or Aneja" is not considered well-taken. Contrary to applicant's assertion, there are ample suggestions in Fujitaka or Aneja for such incorporation. For examples: col. 4, lines 17-18 of Fujitaka suggests that a heat transfer tube is used in the heating step; and while the heat transfer system is not restricted to any particular type, (col. 4, lines 39-47), the vertical multitubular type is preferred, (appears corresponding to the type suggested in Duran), because said type is of simple structure, low in cost and pressure resistant. Furthermore, col. 6, lines 42-49 suggests that the devolatilizer is composed of a vertical multitubular heat exchanger serving as the heater. In like manner, cols 9-10 of Aneja would at least be suggestive of the Duran's type of heat transferring process and device. While Duran does not specifically teach passing the same heat transfer fluid from the supply tube to the return tube and withdrawing the heat transfer fluid from the

return tube, however the above argued process is not an unobvious subject matter, nor is it indicative of criticality in the art, as taught by Williams, as discussed supra.

Moreover, the argued oil as the heat transfer fluid claimed e.g., in claim 16 is obvious in view of Aneja's disclosure in col. 9, lines 36-38. The steam in claim 15 and other types of heat transfer fluid in the Markush grouping as claimed in claim 14 are deemed to be known alternatives of the known oil used for their art- recognized function, i.e., as a heat transfer fluid. See e.g., Williams' suggestion at col. 5, lines 43-44.

Thus, in the absence of anything which may be "new" or "unexpected result." a prima facie case of obviousness has been reasonably established by the art and has not been rebutted. Unexpected results must be established by factual evidence. Mere arguments or conclusory statements in the specification, applicants' amendments, or the Brief do not suffice. In re Linder, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972). In re Wood, 582, F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

This application contains claims 17-20 drawn to a nonelected invention. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is 571-272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
VIRGINIA MANOHARAN  
PRIMARY EXAMINER  
ART UNIT 133 / 1764